

ANTIBIOTIC RESISTANT ORGANISMS (ARO)

What are AROs?

Antibiotic resistant organisms (AROs) are disease-causing bacteria that have changed to resist the antibiotics (drugs) designed to kill them. This means that some bacteria may survive and continue to cause infections despite a person being given an antibiotic treatment. AROs can be difficult, and sometimes impossible to treat.

Some examples of AROs include methicillin-resistant *Staphylococcus aureus* (MRSA), vancomycin resistant Enterococcus (VRE), extended spectrum beta-lactamase (ESBL) and carbapenem-resistant Enterobacteriaceae (CPE).

Leading causes of increased antibiotic resistance are the overuse or inappropriate use of antibiotics to treat infections. Some people can carry an ARO in or on their body without it causing them any harm or symptoms of infection. This is called colonization.

How do AROs spread?

Antibiotic resistant organisms (AROs) are typically spread in health care settings such as hospitals and long-term care homes, which is why proper infection prevention and control practices at these facilities is so important. AROs can also be spread in community settings such as homeless shelters and gyms.

If a person is colonized or infected with an ARO, the bacteria can be spread to other people through direct contact (usually from the hands of health care workers) or indirectly through contact with shared items or surfaces (e.g., towels, taps, etc.).

AROs can live and survive for weeks on equipment and surfaces such as door and equipment handles, and handrails and bedrails if they are not properly cleaned and disinfected.

What are the risk factors for an ARO infection?

An ARO infection is more likely to develop among the elderly, individuals who are hospitalized and those with severe disease or weakened immune systems.

Other factors that increase the risk of getting an ARO infection include:

- Colonization with an ARO
- Previous hospitalization or transfer between health care facilities
- Receiving recent health care in another country

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- Living in long-term care facilities or seniors' residences.
- Living in a communal setting (e.g., homeless, halfway house, correctional facility)

How are AROs treated?

If a person has an ARO present in or on their body (colonization) but has no symptoms of an infection, they do not usually need treatment.

Infections caused by antibiotic resistant organisms (i.e., bacteria) may be resistant to more than one antibiotic making them more difficult to treat. Antibiotic choices are becoming more and more limited due to growing antibiotic resistance and there are few new antibiotics being developed. Therefore, antibiotics need to be used appropriately and when prescribed.

What can be done to prevent the spread of AROs?

HAND HYGIENE

Proper hand hygiene is one of the most effective ways to reduce the risk of getting colonized or infected with an ARO.

Practice good hand hygiene before and after contact or care with patients/residents.

Proper hand hygiene techniques include washing hands for 15 seconds with soap and running water or applying alcohol-based hand rub (70-90% ethanol or isopropyl alcohol) to all areas of your hands (use a thumb-sized amount) and rubbing hands until they are dry.

Hands should be cleaned:

- After using the bathroom
- After blowing your nose
- Before eating and drinking
- Before and after touching dressings or wounds
- When hands are visibly dirty (soiled)
- Before entering or leaving a patient/resident room



It is also important to educate and remind patients/residents about the proper way to perform hand hygiene.

ADDITIONAL MEASURES

Additional measures need to be taken in the health care facility to stop AROs from spreading to other people. The following measures should be taken for a colonized or infected individual:

- Private room accommodation is preferred (the door can remain open)
- Hand hygiene is performed by everyone who enters and leaves the room
- Long-sleeved gown and gloves are worn by everyone who provides direct care
- The proper steps for putting on and taking off personal protective equipment are followed
- Signage is placed on the door to remind anyone entering the room what measures need to be taken
- Equipment should be dedicated to the patient/resident or adequately cleaned and disinfected after each use if it is shared. This includes transport equipment (e.g., wheelchairs)
- The room and equipment used in the room is cleaned and disinfected daily
- The room is terminally cleaned upon discharge or after Additional Precautions have been discontinued. Fresh supplies should be stocked

References

<https://www.canada.ca/en/public-health/services/antibiotic-antimicrobial-resistance/about-antibiotic-resistance.html>